H132 Two Dead Bodies in a Cemetery: An Unexpected Lightning Strike

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The goal of this presentation is to educate police, scene investigators, medical examiners, and coroners on classic scene and autopsy findings in a lightning strike.

This presentation will impact the forensic science community in regard to the scene and autopsy findings of a death due to a lightning strike, as well as the performance of a scene investigation and examination of these deaths.

In early August 2016, the bodies of a man and a woman were found in a cemetery. They were 34 and 32 years old, respectively, and had a history of intravenous as well as other illicit drug abuse. Drug paraphernalia was identified at the scene, which included syringes and small bags of white powder. Both decedents were also noted to have recent injection sites of their anterior forearms; however, examination of the scene revealed damage to a tree adjacent to where the decedents were discovered that appeared recent and possibly electrical in nature. Additionally, there were thunderstorms in the region overnight, with multiple lightning strikes to the ground reported. The bodies were transported to the medical examiner's office for an examination.

The following day, an examination of both decedents was performed at the medical examiner's office. Examination of the woman revealed a thermal injury of the upper right side of her back associated with a burn of her overlying shirt and bra. She also had "blow-out" damage to the toes of both of her sneakers and socks. Examination of the man revealed classic Lichtenberg figures (ferning) of the anterior torso. Toxicology testing was performed and revealed the presence of fentanyl, as well as other illicit drugs including methamphetamine and heroin at concentrations which could be consistent with a drug overdose in the blood of both decedents. The cause of death for both decedents was certified as: (1) electrocution due to lightning strike; and, (2) acute mixed drug intoxication.

Lightning strikes are an uncommon cause of death with 39 fatalities reported in the United States in 2016 and 312 deaths reported since 2007 according to data collected by the National Oceanic and Atmospheric Administration. The vast majority of fatal lightning strikes occur in the summer (July and August) with men outnumbering women nearly 9 to 1. Classic findings at autopsy include Lichtenberg figures, thermal burns, and associated damage to clothing where present. Examination of the scene and knowledge of the weather at the time of death is crucial to making the diagnosis of an electrocution due to a lightning strike. Additionally, a full internal examination and toxicology testing are a necessary components of a thorough investigation of a possible lightning strike. Electrocution due to a lightning strike will have classic scene and physical findings that should be documented to make the appropriate diagnosis. Other potential causes of death should be considered and excluded where necessary.

Lightning Strike, Electrocution, Fentanyl

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